MEE427 PID Control – REQUIREMENT FOR POWER CARD

Within the course MEE427, the students will drive and control a DC motor by using the custom card that consists of PIC16F877A with necessary components. The PID control algorithm will be implemented to the microcontroller so that the position control for given DC motor will be utilized. Given DC motor with its motor driver is compatible with 12 Volt, therefore only 12 Volt will be supplied to the students. The required logic level, which is 5 Volt in this case, should be distributed by a custom power card, which should be built by the group members. The 5 Volt should be stable and be distributed to microcontroller card, DC Motor driver and feedback potentiometer device. Also, it is needed to have a fuse in series with the main electrical input, which provides the secure implementation and protects the components and DC motor.

The custom power card should contain;

- Strong connections for a 12 Volt input, a 12 Volt fused output and multiple (at least 2 different) 5 Volt outputs (terminals with screw).
- Fuse for 2 ampere.
- PCB type Fuse Holder.
- 5 Volt Voltage regulator with necessary components.

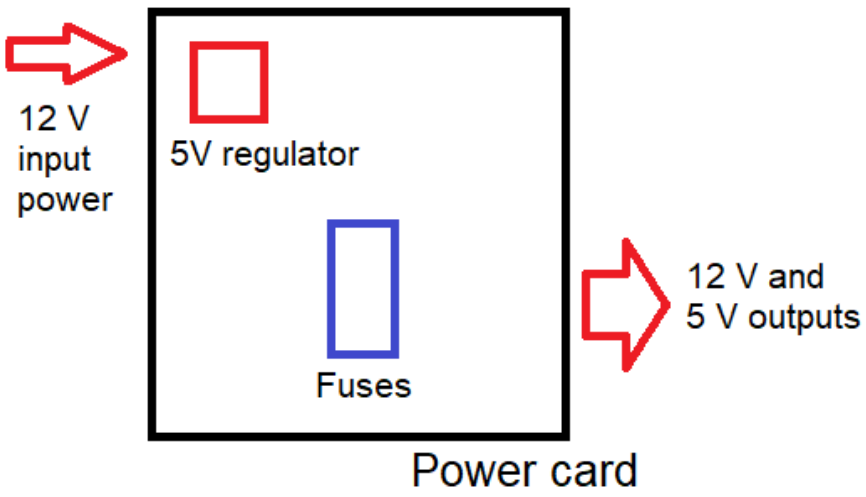

Figure: A practical illustration of the power card